NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 1 JANUARY/FEBRUARY 1986

CONTENTS

Editorial 1

Articles

The selectivity of the reduction of serotonin S2 receptors in Alzheimer-type dementia.
CROSS, A. J., T. J. CROW, I. N. FERRIER and J. A. JOHNSON 3

Catecholaminergic-serotonergic balance in the CNS and reproductive cycling in aging rats.
COOPER, R. L., M. C. McNAMARA and M. LINNOILA 9

Immunocytochemical changes in serotonin in the forebrain and pituitary of aging fish.
MARGOLIS-NUNNO, H., L. HALPERN-SEBOLD and M. P. SCHREIBMAN 17

Ischemia and the aging brain. Studies on glucose and energy metabolism in rat cerebral cortex.
HOYER, S. and C. KRIER 23

Reduction of motor behavioral deficits in senescent animals via chronic prolactin administration I. Rotational behavior.
JOSEPH, J. A., G. S. ROTH and A. S. LIPPA 31

Reduction of motor behavioral deficits in senescent animals via chronic prolactin administration II. Non-stereotypic behaviors.
JOSEPH, J. A. and A. S. LIPPA 37

Brief Communications

Philothermal response, microtubules and dementia.
FU, T.-K., S. S. MATSUYAMA, J. O. KESSLER and L. F. JARVIK 41

LHRH neurons in the female C57BL/6J mouse brain during reproductive aging: No loss up to middle age.
HOFFMAN, G. E. and C. E. FINCH 45

Senescence does not alter activation or inhibition of striatal adenylate cyclase.
RABIN, R. A. 49

Meeting Reports

IInd International Congress on Psychogeriatric Medicine.
FOWLER, C. J., A.-M. O'CARROLL, G. BUCHT and B. WINBLAD 53

New Concepts in Alzheimer's Disease.
BRILEY, M., P. CHOPIN and C. MORET 57

Contents continued

NIH News 63

Papers to Appear 66

Age Page 67

Calendar 71

Announcements 75

NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 2 MARCH/APRIL 1986

CONTENTS

Articles

Age-related alterations in monoamine release from rat striatum: An *in vivo* electrochemical study.
ROSE, G. M., G. A. GERHARDT, G. L. CONBOY and B. J. HOFFER 77

^{3}H-Imipramine binding in aged mouse brain: Regulation by ions and serotonin.
SEVERSON, J. A. 83

Effect of 64 hours of sleep deprivation upon sleep in geriatric normals and insomniacs.
BONNET, M. H. 89

Circadian temperature rhythms in young adult and aged men.
VITIELLO, M. V., R. G. SMALLWOOD, D. H. AVERY, R. A. PASCUALY, D. C. MARTIN and P. N. PRINZ 97

Stability of dendrites in cortical barrels of C57Bl/6N mice between 4 and 45 months.
COLEMAN, P. D., S. J. BUELL, L. MAGAGNA, D. G. FLOOD and C. A. CURCIO 101

Lipofuscin in retinal pigment epithelium of rhesus monkey: Lack of diminution with Centrophenoxine treatment.
ANDREWS, L. D. and K. R. BRIZZEE 107

Age-dependent spontaneous EEG bursts in rats: Effects of brain phosphatidylserine.
APORTI, F., R. BORSATO, G. CALDERINI, R. RUBINI, G. TOFFANO, A. ZANOTTI, L. VALZELLI and L. GOLDSTEIN 115

Hypothalamic aromatase activity in young and old male rats.
ROSELLI, C. E., L. W. KALER and J. A. RESKO 121

Testosterone is more effective than dihydrotestosterone plus estradiol in activating sexual behavior in old male rats.
CHAMBERS, K. C. and C. H. PHOENIX 127

Meeting Report

Thirteenth International Congress of Gerontology.
PONTECORVO, M. J., D. K. INGRAM and R. L. DEAN 133

NIH News 139

Age Page 141

Calendar 143

Papers to Appear 147

NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 3 MAY/JUNE 1986

CONTENTS

Articles

Bidirectional responsiveness of the pituitary-adrenal system in old and young male and female rats.
BRETT, L. P., R. LEVINE and S. LEVINE 153

Reduced incidence of left-handedness in clinically diagnosed dementia of the Alzheimer type.
DE LEON, M. J., M. E. LA REGINA, S. H. FERRIS, C. I. GENTES and J. D. MILLER 161

Sexual behaviors of aging female rats: Influence of age and hormonal state of male partners.
CHAMBERS, K. C. and C. H. PHOENIX 165

Sexual solicitation by middle-aged and old rhesus females.
PHOENIX, C. H. and K. C. CHAMBERS 173

Aging and day-night rhythms in feeding in mice: Effects of the putative sigma opiate agonist, N-allynormetazocine (SKF-10,047).
KAVALIERS, M. and M. HIRST 179

Age-related decrements in morphine analgesia: A parametric analysis.
KRAMER, E. and R. J. BODNAR 185

Age and sex-dependent decreases in ChAT in basal forebrain nuclei.
LUINE, V. N., K. J. RENNER, S. HEADY and K. J. JONES 193

Effects of chronic hypoxia on behavioral and physiological parameters.
SCHULZE, G. and B. JANICKE 199

Human red blood cell choline uptake with age and Alzheimer's disease.
SHERMAN, K. A., G. E. GIBSON and J. P. BLASS 205

Brief Communications

HLA-A2 as a possible marker for early-onset Alzheimer disease in men.
SMALL, G. W. and S. S. MATSUYAMA 211

Quantitative histochemistry of brain acetylcholinesterase and learning rate in the aged rat.
BIEGON, A., V. GREENBERGER and M. SEGAL 215

Meeting Report

Society for drug research symposium: Senile dementia of the Alzheimer type.
WILSON, C. A. 219

NIH News 223

Age Page 225

Calendar 229

Papers Accepted for Forthcoming Issues 233

NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 4 JULY/AUGUST 1986

CONTENTS

Articles

Quantitative analysis of dendritic networks of Purkinje neurons during aging.
PENTNEY, R. J. 241

Senile dementia and Alzheimer's disease: Lack of changes of the cortical content of quinolinic acid.
MORONI, F., G. LOMBARDI, Y. ROBITAILLE and P. ETIENNE 249

Low levels of calpain activity in Chiroptera brain: Implications for mechanisms of aging.
BAUDRY, M., R. DuBRIN, L. BEASLEY, M. LEON and G. LYNCH 255

Luteinizing hormone releasing hormone (LHRH) neurons in aging female rhesus macaques.
WITKIN, J. W. 259

A re-evaluation of changes in rat striatal D-2 dopamine receptors during development and aging.
O'BOYLE, K. M. and J. L. WADDINGTON 265

Piracetam combined with lecithin in the treatment of Alzheimer's Disease.
GROWDON, J. H., S. CORKIN, F. J. HUFF and T. J. ROSEN 269

Quantitative morphology of medium-sized caudate spiny neurons in aged cats.
LEVINE, M. S., A. M. ADINOLFI, R. S. FISHER, C. D. HULL, N. A. BUCHWALD and J. P. McALLISTER 277

Medial septal and nucleus basalis magnocellularis lesions produce order memory deficits in rats which mimic symptomatology of Alzheimer's disease.
KESNER, R. P., K. A. CRUTCHER and M. O. MEASOM 287

Number of neurons in nucleus locus ceruleus in demented and non-demented patients: Rapid estimation and correlated parameters.
BONDAREFF, W. and C. Q. MOUNTJOY 297

Brief Communication

Desamino-D-arginine-vasopressin (DDAVP) in Alzheimer's disease.
PEABODY, C. A., H. DAVIES, P. A. BERGER and J. R. TINKLENBERG ... 301

NIH News 305

Age Page 307

Papers to appear in September/October issue 310

Calendar 311

NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 5 SEPTEMBER/OCTOBER 1986

CONTENTS

Articles

Quantitative changes in cerebral cortical microvasculature in ageing and dementia.
MANN, D. M. A., N. R. EAVES, B. MARCYNIUK and P. O. YATES 321

The adrenocortical axis in the aged rat: Impaired sensitivity to both fast and delayed feedback inhibition.
SAPOLSKY, R. M., L. C. KREY and B. S. McEWEN 331

A comparative-evolutionary study of lipids in the aging brain of mice.
TORELLO, L. B., A. J. YATES, R. HART and K. S. LEON 337

Chronic alcohol consumption induces lipofuscin deposition in the rat hippocampus.
BORGES, M. M., M. M. PAULA-BARBOSA and B. VOLK 347

Effect of aging on striatal dopamine receptor subtypes in Wistar rats.
HENRY, J. M., C. R. FILBURN, J. A. JOSEPH and G. S. ROTH 357

Brief Communication

Aging does not alter the sensitivity of benzodiazepine receptors to GABA modulation.
KOCHMAN, R. L. and C. K. SEPULVEDA 363

Review

Antemortem markers of Alzheimer's disease.
HOLLANDER, E., R. C. MOHS and K. L. DAVIS 367

Peer Commentaries

Antemortem markers in Alzheimer disease: Have we looked at the forest and missed the trees?
JARVIK, L. F. and S. S. MATSUYAMA 387

Critique of antemortem markers of Alzheimer's disease.
WINBLAD, B., C. J. FOWLER and J. MARCUSSON 388

CNS cholinergic markers and Alzheimer's disease.
PERRY, E. K. and R. H. PERRY 390

Brain acetylcholine—A view from the cerebrospinal fluid (CSF).
GIACOBINI, E. 392

Structural and functional neuroimaging in Alzheimer's disease.
DE LEON, M. J. and A. E. GEORGE 396

Commentary on antemortem markers of Alzheimer's disease.
RAPOPORT, S. I., J. R. ATACK, C. MAY and C. L. GRADY 398

Contents continued

Searching for antemortem markers premature.
CARLSSON, A. 400

A review of antemortem markers of Alzheimer's disease.
HARTFORD, J. T. 401

Antemortem markers of Alzheimer's disease: A commentary.
ROTH, SIR MARTIN 402

Authors' Comments

Authors' response to commentaries.
DAVIS, K. L. and R. C. MOHS 406

NIH News 409

Age Page 411

Calendar 415

Reviews for special issue "Controversial Topics on Alzheimer's Disease" (November/December issue) 418

NEUROBIOLOGY OF AGING

VOLUME 7 NUMBER 6 NOVEMBER/DECEMBER 1986

CONTENTS

Editorial

Controversial Topics on Alzheimer's Disease: Intersecting Crossroads 421

On the Continuing Mystery of Alois Alzheimer's 'Strange Changes in Neurofibrils and Strange Substances in the Cerebral Cortex' 423

Review

Altered structural proteins in plaques and tangles: What do they tell us about the biology of Alzheimer's disease?
SELKOE, D. J. 425

Commentaries

More thoughts on plaques and tangles.
YEN, S.-H. 432

Biology of Alzheimer's disease through biochemistry of tangles and plaques.
IQBAL, K. 434

Unfolding the nature of senile plaque amyloid.
PERRY, E. K. and R. H. PERRY 437

Marching backwards into the future.
GLENNER, G. G. 439

Amyloid proteins in Alzheimer's disease.
MASTERS, C. L. 441

The origin of the structural proteins found in plaques and tangles.
ANDERTON, B. A. 443

The importance of altered structural proteins in the pathogenesis of Alzheimer's disease.
MANN, D. M. A. and J. HARDY 444

Morphology and biochemistry of abnormal fibrous proteins in Alzheimer's disease and senile dementia of the Alzheimer type (AD/SDAT).
WISNIEWSKI, H. M. and D. L. MILLER 446

The proteins of plaques and tangles: How much do they tell us about the biology of Alzheimer's disease?
SHELANSKI, M. L. 448

Plaques and tangles in Alzheimer's disease: Cause, consequence or epiphenomenon?
DRACHMAN, D. A. 450

Paired helical filaments: Do they contain neurofilament epitopes?
GAMBETTI, P., G. PERRY and L. AUTILIO-GAMBETTI 451

On the uniform source of amyloid in plaques, tangles and vascular deposits.
GAJDUSEK, D. C. 453

Author's response to commentaries.
SELKOE, D. J. 454

Contents continued

May the Problem Lie in Our Genes? 457

Review

The genetics of Alzheimer's disease: A review and a discussion of the implications.
DAVIES, P. 459

Commentaries

Alzheimer's disease: New genetic research strategies.
ROSES, A. D. 466

Ambiguities in Alzheimer's disease diagnosis: Implications for genetic research.
HENDERSON, V. W. 468

The molecular genetic approach to familial Alzheimer's disease.
GUSELLA, J. F. 472

Conceptual issues involved with the genetics of Alzheimer's disease.
WHALLEY, L. J. 473

What now?
HESTON, L. L. 475

On methodology and appropriate inference regarding possible genetic factors in typical, late-onset AD.
BREITNER, J. C. S. 476

Problems and limitations in studying a genetic component of Alzheimer's disease.
BIRD, T. D. 477

Genetics in Alzheimer's disease: Methodological problems, research strategies, and practical applications.
BARCLAY, L. 479

Both genetic and non-genetic risk factors of Alzheimer's disease must continue to be evaluated.
MAROTTA, C. A. 481

Genetics and Alzheimer's disease: Promises and caveats.
FOLSTEIN, M. 482

Genetic counseling in Alzheimer's disease.
CHASE, G. A. 483

Author's response to commentaries.
DAVIES, P. 484

What Can Be Said of the Pathogenesis and Progression of Alzheimer's Disease? 487

Review

An integrative hypothesis concerning the pathogenesis and progression of Alzheimer's disease.
HARDY, J. A., D. M. A. MANN, P. WESTER and B. WINBLAD 489

Commentaries

Which came first, the neuritic plaque or the neurofibrillary tangle?
SAPER, C. B. 502

AD/SDAT, plaques, tangles and BBB changes.
WISNIEWSKI, H. M., R. D. RUDELLI, K. IQBAL and G. MERZ 504

Pathogenesis and progression of Alzheimer's disease: A new hypothesis!
RASOOL, C. G. 505

On primal causes in Alzheimer's disease.
GLENNER, G. G. 506

Role of neuritic plaques and blood brain barrier in pathogenesis of Alzheimer's disease.
KATZMAN, R. 508

Is Alzheimer's a homogeneous disease, are plaques critical and does the blood brain barrier really contribute?
GOTTFRIES, C. G. 510

Commentary on the pathogenesis of Alzheimer's disease.
MIYAKAWA, T. 511

Is a breakdown of the blood-brain barrier cause or effect?
APPEL, S. H. and J. L. McMANAMAN 512

On the pathogenesis of Alzheimer's disease.
HEFTI, F. 514

Disordered innervation of cerebral vasculature as a cause of Alzheimer's disease plaques and tangles.
MASTERS, C. L. 516

The continuing search for the primary event in Alzheimer's disease: A criticism.
WHITEHOUSE, P. J. and J. R. UNNERSTALL 517

Key concepts in a modern view of Alzheimer's pathogenesis.
ROGERS, J. 518

Author's response to commentaries.
HARDY, J. A., D. M. A. MANN, P. WESTER and B. WINBLAD 520

Contents continued

Aluminum: Crust of Earth, or Curse of Nature? 523

Review

Aluminum and Alzheimer's disease.
CRAPPER McLACHLAN, D. R. 525

Commentaries

No evidence for aluminum in etiology and pathogenesis of Alzheimer's disease.
WISNIEWSKI, H. M., R. C. MORETZ and K. IQBAL 532

"Aluminum's disease" and Alzheimer's disease.
GHETTI, B. and O. BUGIANI 536

Aluminum toxicity among other views on the etiology of Alzheimer disease.
KHACHATURIAN, Z. S. 537

Aluminum and Alzheimer's disease: An evolving understanding.
PETTEGREW, J. W. 539

Aluminum toxicity: Transport and sites of action.
JOPE, R. S. 541

Aluminum and Alzheimer's disease: New directions.
MAYOR, G. H. 542

Systemic toxicity of aluminum in man.
ALFREY, A. C. 543

A silicon aluminum relationship in aged brain.
CARLISLE, E. M. 545

Chronic aluminum toxicity: Effects of aluminum on neurotransmitters.
MARQUIS, J. K. 547

Role of aluminum in experimental encephalopathy and in Alzheimer disease: A simple view.
GAMBETTI, P. 548

The aluminum hypothesis of Alzheimer's disease: A personal view based on microprobe analysis.
PERL, D. P. 550

The rationale for aluminum absorption control in early stages of Alzheimer disease.
LISS, L. and D. J. THORNTON 552

Calcium aluminum silicon deposits in neurons lead to paired helical filaments identical to those of AD and Down's patients.
GAJDUSEK, D. C. 555

Author's response to commentaries.
CRAPPER McLACHLAN, D. R. 556

Does the Primary Cause of Alzheimer's Disease Lie Right in Front of Our Faces? 559

Review

Alzheimer's disease may begin in the nose and may be caused by aluminosilicates.
ROBERTS, E. 561

Commentaries

Deafferentation-induced alterations in olfactory bulb as a model for the etiology of Alzheimers disease.
BAKER, H. and F. L. MARGOLIS 568

Does Alzheimer's disease spread, and is it causally related to aluminum?
TERRY, R. D. 570

Aluminum in Alzheimer's disease—A testable hypothesis.
MILLER, B. L. 570

Commentary on the speculations that Alzheimer's disease may begin in the nose and may be caused by aluminosilicates.
GUTH, L. 572

Relationship of aluminosilicates to CNS degenerative disorders.
PRUSINER, S. and M. P. McKINLEY 573

Commentary on "Alzheimer's disease may begin in the nose and may be caused by aluminosilicates."
WARD, C. D. 574

Olfactory mucosa, aluminosilicates and Alzheimer's disease.
ANSARI, K. A. 575

The nose as a port of entry for aluminosilicates and other pollutants: Possible role in Alzheimer's disease.
SCHIFFMAN, S. S. 576

The neuropsychology of olfaction in Alzheimer's disease.
GILBERT, A. N. 578

Olfactory deficits in AD: What we know about the nose.
CORWIN, J., M. SERBY and J. ROTROSEN 580

Comments on an olfactory source for an environmental influence and possible involvement of aluminum in the development of Alzheimer's disease.
ESIRI, M. M. and R. J. P. WILLIAMS 582

Two topics for further exploration.
WIMER, R. E. 584

Non-genetic factors in Alzheimer's disease pathogenesis.
HENDERSON, V. W. 585

Author's response to commentaries.
ROBERTS, E. 587

Contents continued

Meeting Report

First Canadian symposium on the organic dementias.
BALL, M. J. 591

NIH News 597

Age Page 599

Papers to Appear in January/February Issue 602

Calendar 603

Acknowledgement 605

Announcements 607

Index to Volume 7 609